# McHenry County's Dust Bowl

By: Glenn Roloff, ND Coordinator, U.S. Forest Service

During the early 1930's, the drought in McHenry County had begun. The entire Great Plains region from Texas to North Dakota was experiencing lower than normal precipitation, higher than normal temperatures, and strong winds. The more level lands were being cultivated and those lands too steep for cultivation were being grazed by cattle and sheep. Shelterbelts were just starting to be established to reduce the effects of wind and to control wind erosion.

McHenry County, with its many thousands of acres of sandy soils, was extremely susceptible to these worsening conditions and severe wind erosion occurred over extensive areas of the county.

In 1931, Denbigh Experimental Forest was established by the U.S. Forest Service 13 miles west of Towner. During that decade, research scientists conducted extensive experiments there to determine which hardwood and conifer trees would grow well in the northern Great Plains for shelterbelt establishment to reduce the effects of wind erosion. At the same time, these scientists documented much of this erosion through photographs taken throughout the county. These photographs dramatically illustrated the severity of the drought, showing abandoned farmsteads with sand dunes built up against the buildings, cultivated fields that looked like a desert with waves of sand and no vegetation remaining, and dune areas of pure sand where livestock had formerly grazed.

Dr. Joseph Stoeckeler prepared a report in 1938 of past research activities at Denbigh Experimental Forest. Also, it included many of the photographs of severe erosion throughout the county described above. Figures No. 1 and No. 2 were taken by him in 1936, indicating a severely eroded area located three miles southwest of Denbigh Experimental Forest. Figures No. 3 and No. 4 were taken at the exact location as No. 1 in 1937 and 1938, respectively. This series of photographs depicts how devastating the drouth was in some areas of the county.

Since the legal description of this area was included in the report, the author was able to find this location in October of 1983 and document what the area looks like today, nearly 50 years later (Figure No. 5).

It is estimated that by 1936, 8 feet of soil was lost in this area to wind erosion or approximately 15,700 tons per acre of soil loss. For comparison, this 15,700 tons per acre would fill about 70 railroad coal cars per acre for this event. On a per year basis, about 3100 tons of soil per acre was lost. For this particular soil series, productivity suffers when 5 tons per acre per year is lost.

In traveling through McHenry County today, it is difficult to imagine that something like this ever occurred. It is a good reminder that it could happen again when drouth occurs again, coupled with cultivation of soils that shouldn't be cropped or overgrazing by livestock.

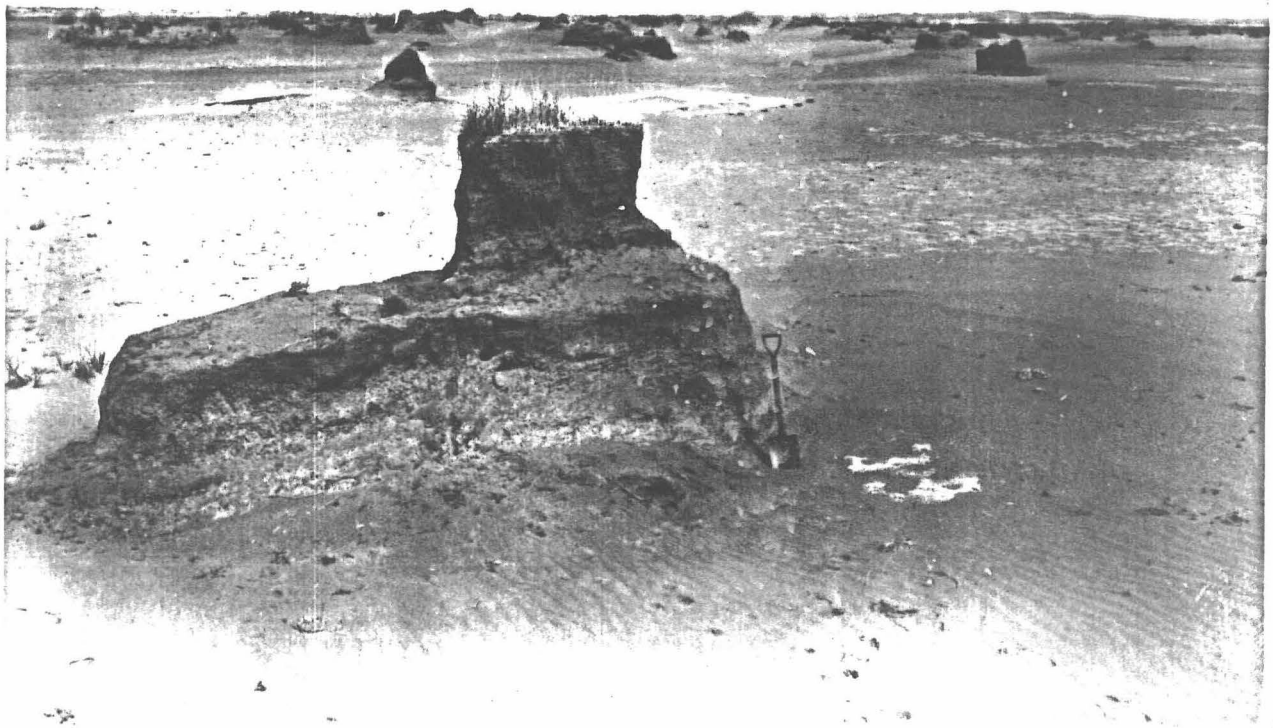

Figure No. 1 - August 19, 1936

By the time this photo was taken, 15 miles southwest of Towner, 8 feet of soil had been lost by wind erosion caused by drought and overgrazing with sheep. Top of the "island" represents the original level of soil. Before 1930, this was a fine piece of rangeland supporting blue grama, little blue stem and other grasses. (USDA - Forest Service photo)

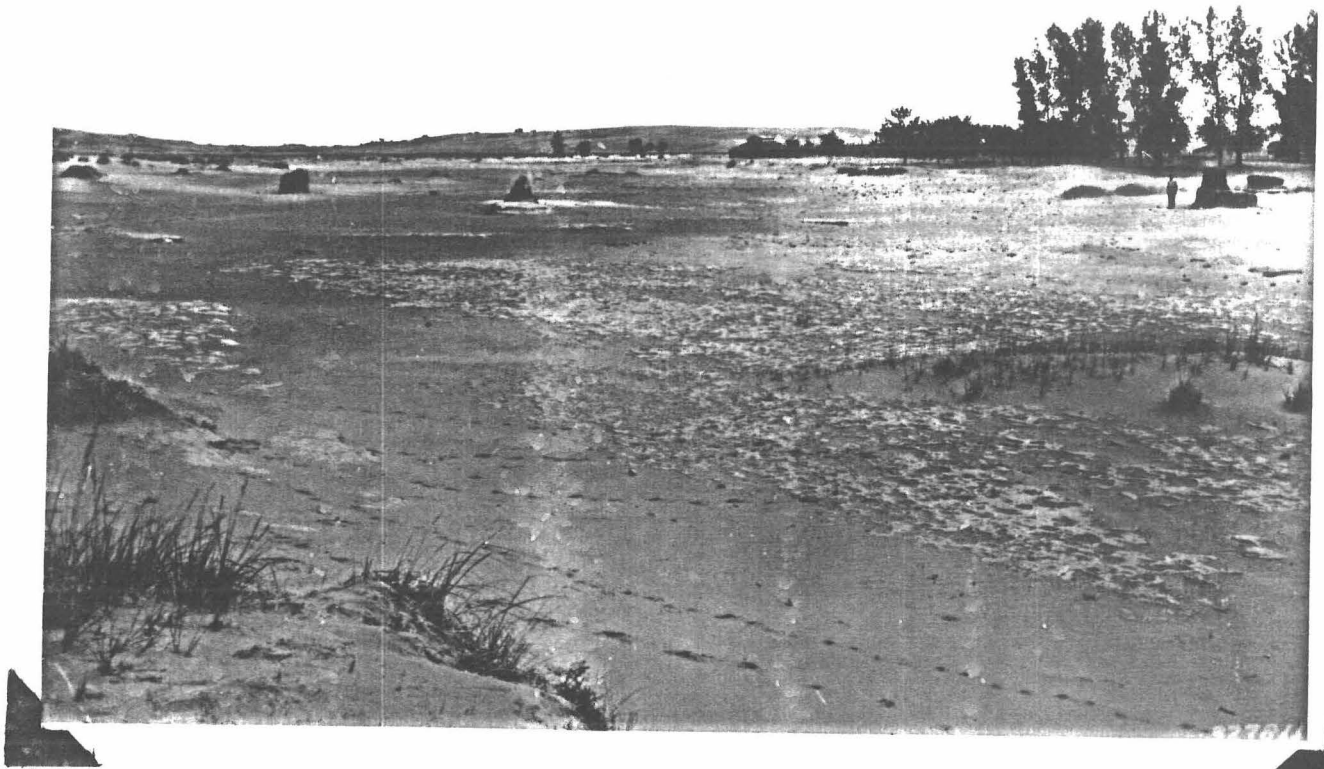

Figure No. 2 - August 19, 1936

Same area as Figure No. 1 taken the same day. The island on the far right just below the cottonwoods, where the man is standing, is the same island in the foreground of Figure No. 1. (USDA - Forest Service photo)

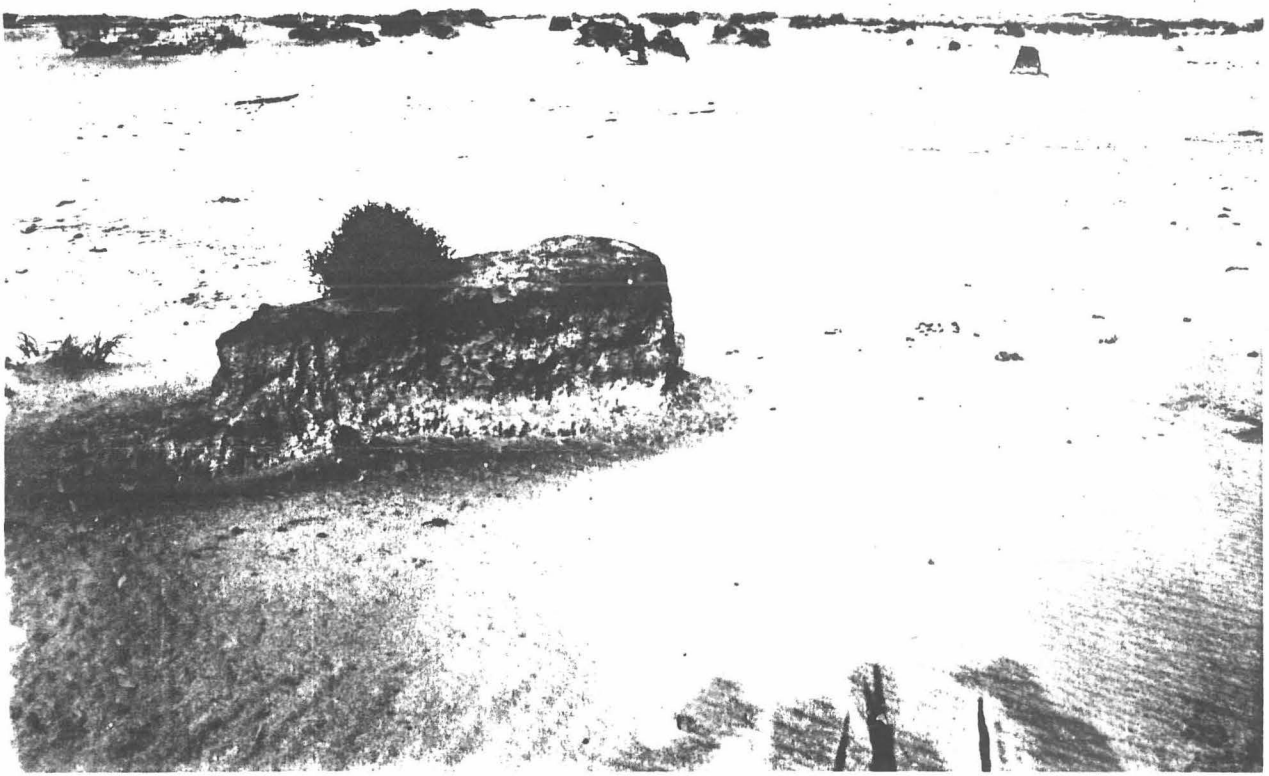

Figure No. 3 - August 14, 1937

Same view as Figure No. 1 one year later. Note how wind erosion has sheared off the top of the island and how some of the islands in the background have disappeared completely. (USDA - Forest Service photo)

Figure No. 4 - September 12, 1938

Same view as Figure No. 3 about one year later. Note how wind erosion sand blasted the island even further and eliminated or reduced other islands in the background. (USDA - Forest Service photo)

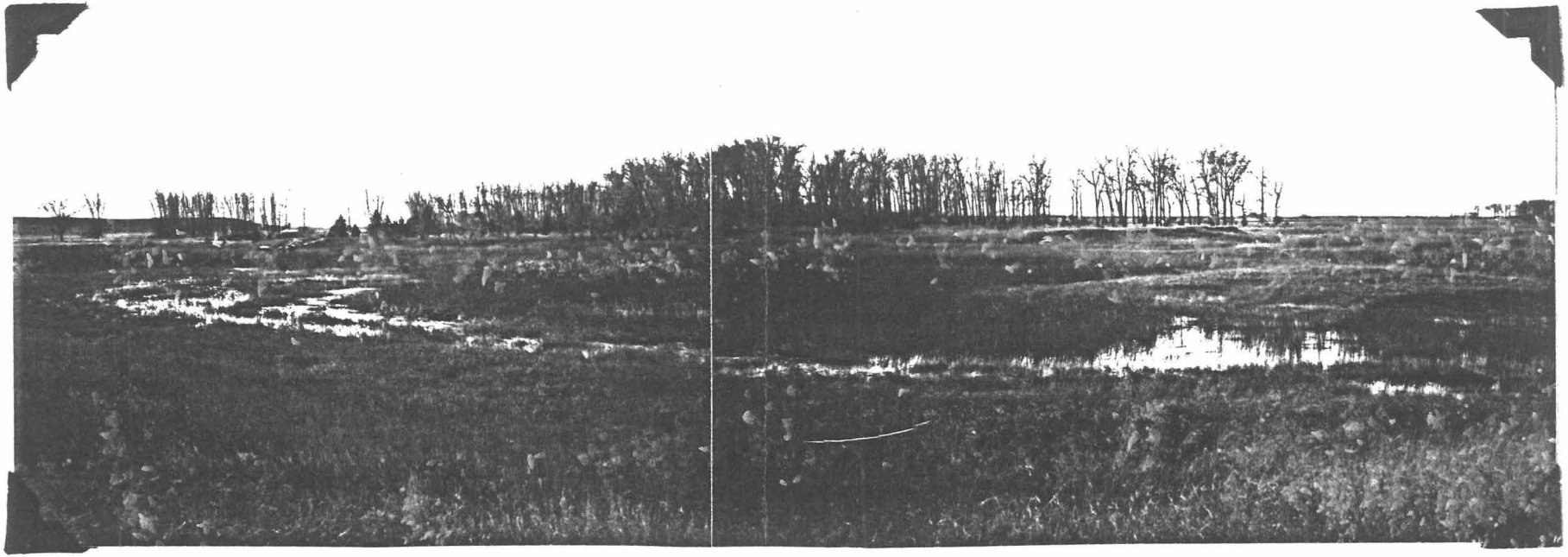

Figure No. 5 - October 4, 1983

The area was revisited and this photo is the same view as Figure No. 2 nearly 50 years later. With proper land management practices, this land is productive again for haying, livestock grazing, and wildlife. (USDA - Forest Service photo)